

UNIVERSITY PARTNER



Project and Professionalism (6CS007)

Artifact Design Milestone

Project Title: EasySummary

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1. Introduction

- ⇒ My final year project is a text summarizing web app which is built using NLP (Natural Language Processing). The title of my project is EasySummary. I will use extractive summarization technique, mainly TF-IDF algorithm to generate summaries. My project can take weblink, documents and just plain raw text as input and summarizes it.
- Now, I have prepared various diagrams to show the functioning of my web app.

2. Definitions, Terms and Abbreviations

- **User:** A person using my web application.
- **Web Browser:** It is a software program that allows a user to locate, access, and display web pages.
- **Web Server:** A computer or computer program which manages access to a centralized resource or service in a network.
- **Summarization module:** This is mainly just the AI part which performs summarization which in my case is NLP.

3. Software Requirements Specification (SRS)

1. Introduction

- Purpose: To provide a web-based text summarization application
- Scope: The application will have a single home page with five sections: home, about, users, reviews, and summarize. The summarize section will allow users to input text and receive a summary output using the TF-IDF algorithm.

2. Overall Description

- The home page will consist of five sections: home, about, users, reviews, and summarize.
- The about section will provide information about the application and its functionality.
- The users section will display user reviews of the application.
- The reviews section will allow users to leave their own reviews of the application.
- The summarize section will be the main functionality of the application, allowing users to input text and receive a summary output using the TF-IDF algorithm.
- The application will not have a login or sign-up page, and will not store data in a database.

3. Functional Requirements

- The application will allow users to input text and receive a summary output using the TF-IDF algorithm.
- The application will not have a login or sign-up page.
- The application will not store data in a database.
- The application will have a single page with five sections: home, about, users, reviews, and summarize.

4. Non-Functional Requirements

- The application will be accessible via a web browser.
- The application will be responsive and optimized for different screen sizes.
- The application will be user-friendly and easy to navigate.
- The application will be able to handle large inputs.

5. Constraints and Assumptions

- The application will only support text input, no support for images, audio or videos.
- The application will not be able to handle non-English languages.
- The application will be only available as a web-based application.
- The summarization algorithm used is TF-IDF, which is an extractive summarization technique.

4. Artifacts

4.1 FDD (Functional Decomposition Diagram) of EasySummary

⇒ This diagram lays out the steps of the project from start to finish in a chronological order.

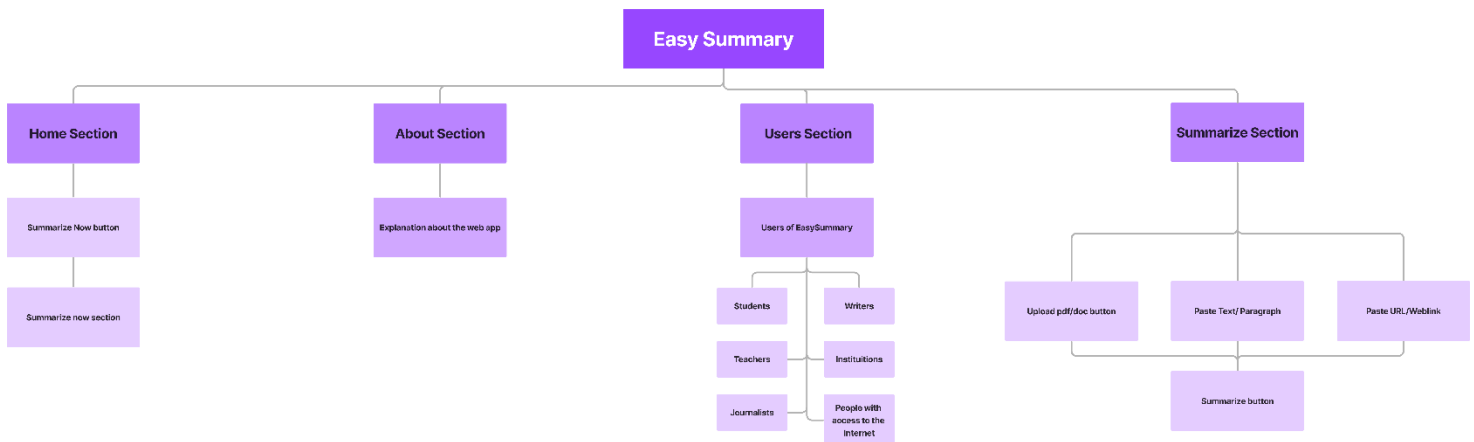


Figure 1: FDD of EasySummary

4.2 UML Diagrams

4.2.1 Behavioral Diagrams

a) Use-Case Diagram

⇒ Use case diagrams provide a visual picture of the various actors in a system, the various functions required by those actors, and the interactions between those various functions.

- In my project the **primary actor** is **user**, and the **secondary actor** is **web server**. The summarization module returns the summary to the **web server** and web server sends it to the **web browser** for display to the **user**.

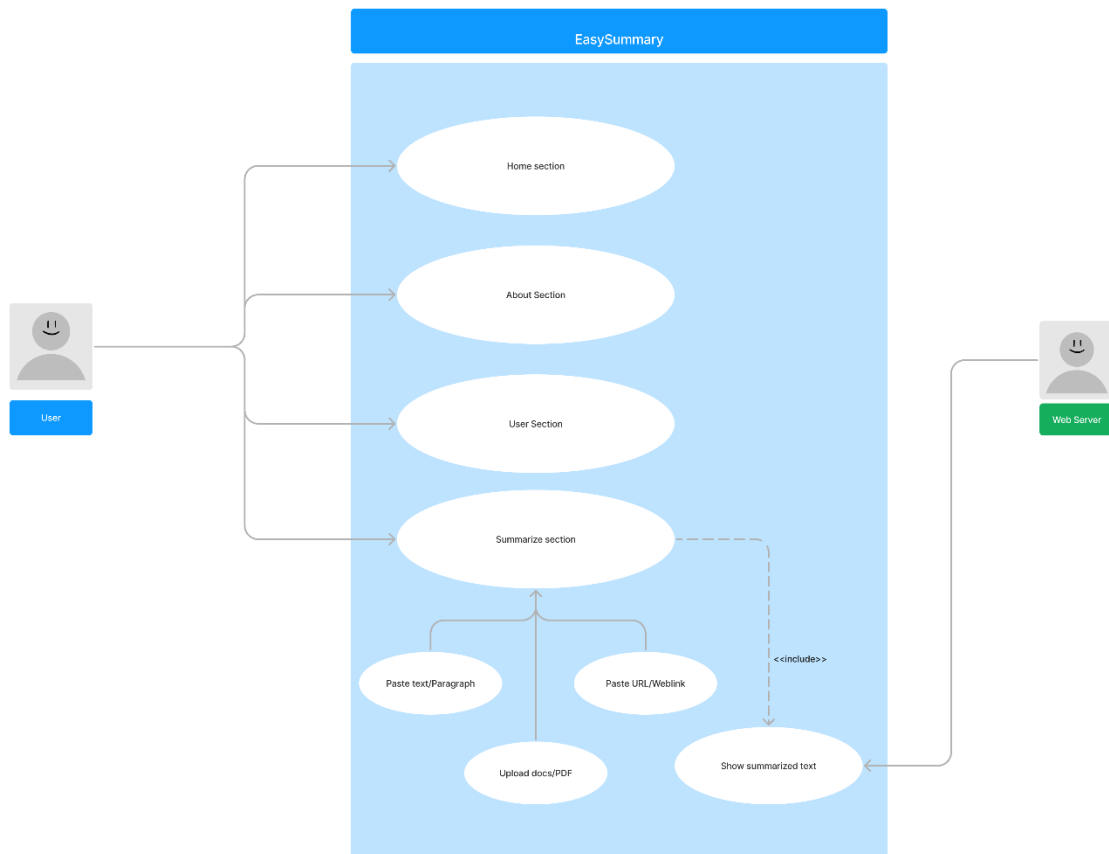


Figure 2: UseCase Diagram of EasySummary

b) Activity Diagram

⇒ Workflows are graphical representations in activity diagrams. They can be used to describe the operational workflow of any system component.

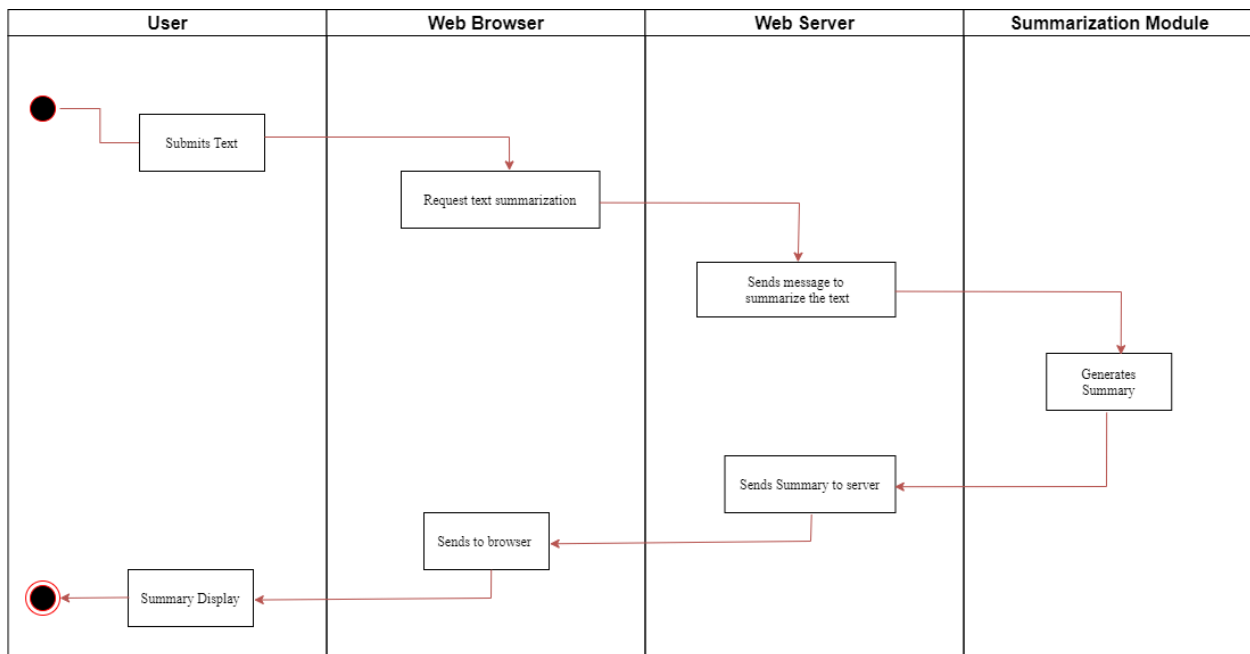


Figure 3:Activity diagram of EasySummary

c) Sequence Diagram

- ⇒ Sequence Diagrams in UML show how objects interact with each other and the order those interactions occur.

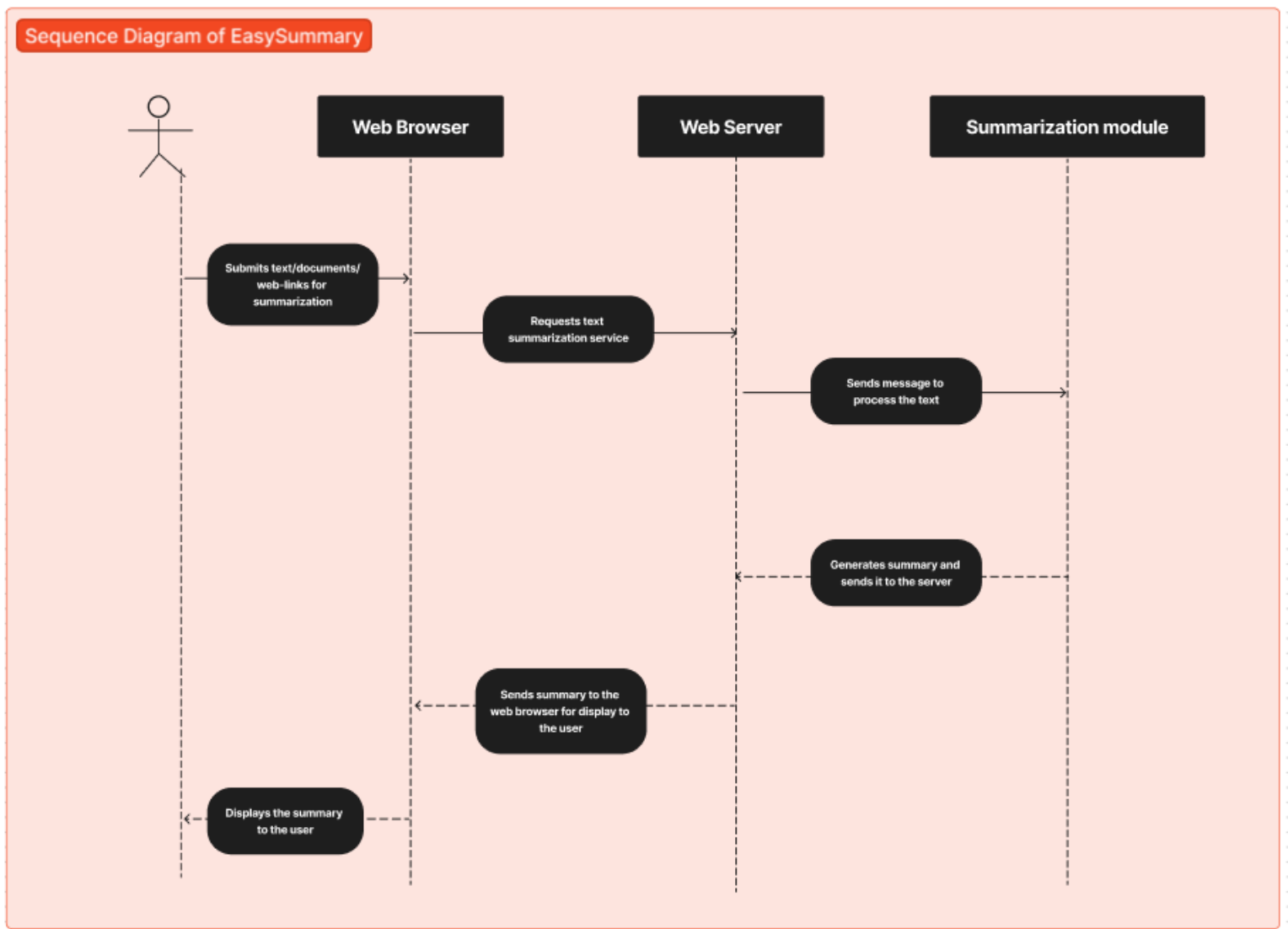


Figure 4: Sequence Diagram of EasySummary

4.2.2 Structure Diagrams

a) Class Diagram

⇒ This diagram aims to show the key abstractions such as classes and interactions among them. UML Class diagram is provided for this aim which can be seen as below. There are 6 main classes in our project. Each of their fields and methods are going to be used in order to generate summary.

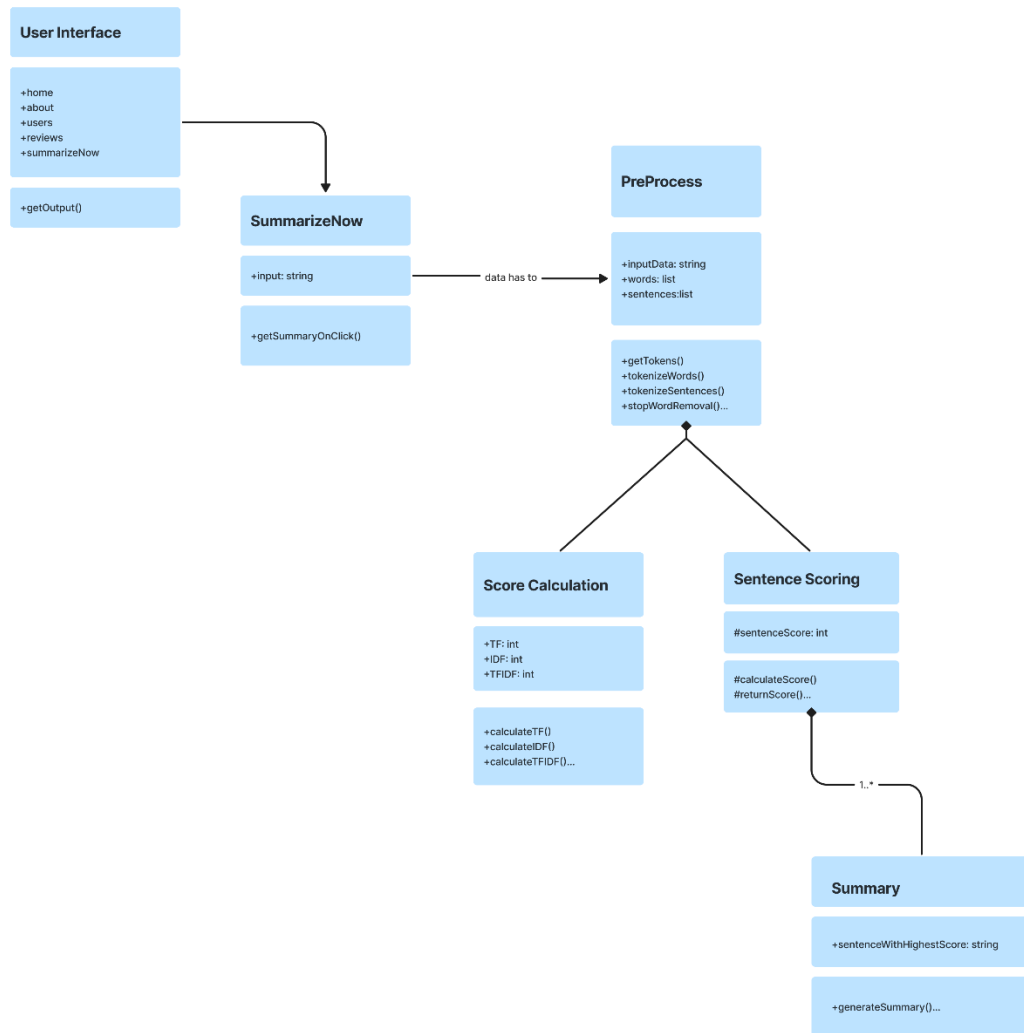


Figure 5: Class diagram of EasySummary

b) Deployment Diagram

- ⇒ This diagram shows the hardware of the system and the software in that hardware.

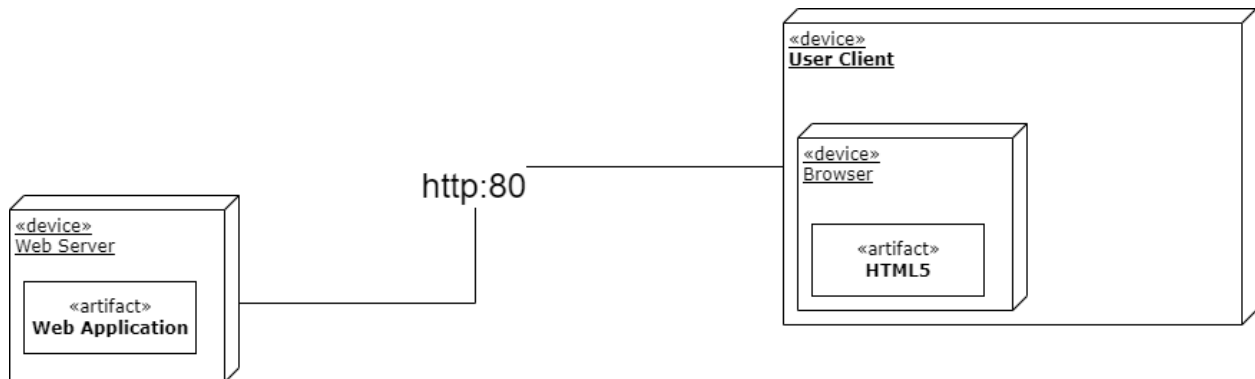


Figure 6: Deployment Diagram of EasySummary

5. Figma UI Design of EasySummary

- ⇒ This is the initial design of the project. Few changes may be done but this is the final UI of my project. There will also be animations added to the pictures. I only have a single page for my project cause Text summarizing apps needs to be as flexible and easy to navigate for the users. There are five sections: home, about, users, reviews and lastly the summarize section. The URL box and upload docs feature is yet to be added in this UI. The final UI would have these features.
- ⇒ As my project is based on agile iterative software development cycle, continuous revisions will be made for design and code for best possible outcome.

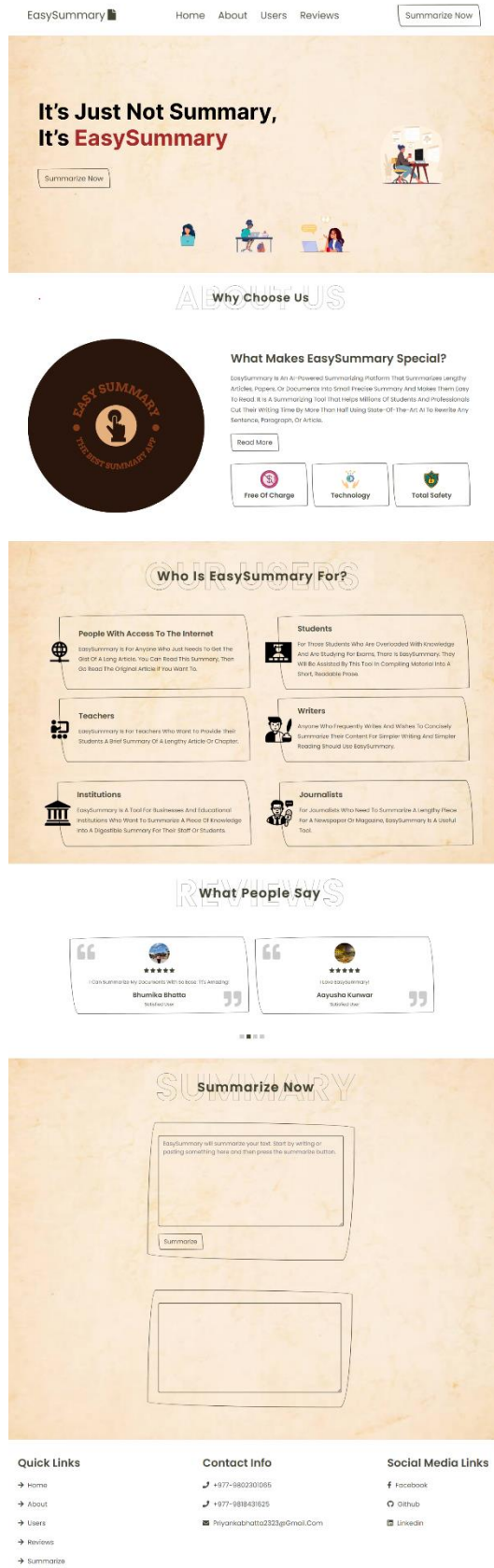


Figure 7: UI of EasySummary